

REMARKS

Claims 1-21 continue to be the pending claims in the application.

Reconsideration of the application in light of the remarks which follow is respectfully requested.

Claim Rejections - 35 U.S.C. § 103

Claims 1-8, 13, and 15-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Horner Jr. et al. (U.S. Patent No. 6,365,533) in view of Dimakis (U.S. Patent No. 5,345,738).

The Examiner contends that Horner Jr. et al. disclose a pliable facer comprising a preformed glass mat, a binder and a coating comprising fillers, surfactant and flame retarding additives and that because surfactant is present, surfactant generated microcells would also be present. The Examiner states that Horner Jr. et al. teach that clay can be used as filler material. The Examiner further states that Horner Jr. et al. disclose that the coating composition comprises surfactants including fatty acids and that the latex component of the coating composition includes latex polymers including copolymers of styrene and butadiene and acrylic based resins. The Examiner alleges that Horner Jr. et al. disclose the claimed invention except for the teaching of a metallic component. The Examiner asserts that Dimakis discloses a multi-functional exterior structural foam sheathing panel comprising fibrous sheets, vapor-impervious sheets, and an insulating core, wherein a metallic foil can be adhered between the core and fibrous sheet on both sides of the core via a polymeric adhesive, and wherein the foil can be aluminum foil. The Examiner then contends that it would have been obvious to have used Dimakis' teaching of metallic sheet on the facer material of Horner Jr. et al.

Claims 9-12 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Horner Jr. et al. (U.S. Patent No. 6,365,533) in view of Dimakis (U.S. Patent No. 5,345,738) and Ahluwalia (U.S. Patent No. 5,965,257).

The Examiner contends that Horner Jr. et al. and Dimakis disclose the claimed

invention except for the teaching that the composite material further requires water repellant material, antifungal material, antibacterial material, a surface friction agent, and an algaecide. The Examiner asserts that Ahluwalia discloses coated structural articles comprising a glass fiber substrate wherein the coating consists of a latex and a filler, and wherein said structural articles may be coated with a water repellant material, an antifungal material, an antibacterial material, a surface friction agent, and an algaecide. The Examiner then contends that it would have been obvious to have used Ahluwalia's water repellent material, antifungal material, antibacterial material, surface friction agent and algaecide on the glass mat of Horner Jr. et al. and Dimakis.

The Claimed Invention

Claim 1 relates to a composite material comprising a first layer which comprises a surfactant component, surfactant-generated microcells, a filler component and a binder component and a second layer comprising a metallic component adhered to the first layer. Claim 2 covers a composite material comprising a substrate, a first layer adhered to the substrate to provide a coated substrate, and a second layer adhered to the coated substrate, wherein the first layer comprises a surfactant component, surfactant-generated microcells, a filler component and a binder component, and wherein the second layer comprises a metallic component. Claims 3-21 are dependent on claim 1 or claim 2 or both or claims dependent thereon.

The Prior Art

Horner Jr. et al. disclose a facer member for use in the construction industry comprising a preformed fiber mat substrate coated with a prefoamed, self-sustaining foam mixture. The facer member disclosed by Horner Jr. et al. can be used to manufacture insulation boards comprising thermosetting or thermoplastic foam cores disposed between a pair of facer members laminated to the core surfaces. *See* Horner Jr. et al. col. 5, lines 34-39. Horner Jr. et al. teach that the coating mixture contains a thixotropic polymer latex, a surfactant, and an inorganic

mineral filler, such as clay. *See* Horner Jr. et al. col. 3, lines 2-6 and lines 45-50. Horner Jr. et al. further teach that the facer members can be used as non-foil non-glare sheathings. *See* Horner Jr. et al. col. 7, lines 9-12. This is consistent with Horner Jr. et al.'s description of the prior art in which foil was used which Horner Jr. et al. describe as "leading to disruption of cell structure, delamination and warping" and as costly and thus not desirable. *See* Horner Jr. et al. col 2, lines 20-24.

Dimakis teaches an insulation panel comprising an insulating core, sandwiched between cover sheets. *See* Dimakis col. 2, lines 1-14. Sheets of foil may be provided between the core and the cover sheets to block the exchange of a blowing agent in the core and air. *See* Dimakis col. 2, 36-40, and Figs. 1 and 2.

There is No *Prima Facie* Case of Obviousness

Horner Jr. et al. and Dimakis do not support a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some suggestion or motivation in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the combined references must teach or suggest all the claimed limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and must not be based on the Applicants disclosure. *In re Vaeck*, 947 F2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991); MPEP § 2142.

In this case, there is no suggestion or motivation in any of the cited references to alter the references to produce a composite material according to the present claims. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *See In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (emphasis added).

Horner Jr. et al. teaches prefoamed coatings comprising a thixotropic polymer latex, a surfactant and an inorganic filler. These self-sustaining foamed coatings can be applied to a fibrous mat to produce facer members that are used to manufacture an insulation board comprising a traditional thermoplastic insulating foam core having facer members on both sides. Dimakis teaches a panel having an insulating core sandwiched between cover sheets. Metallic foil may be used to block the exchange of the blowing agent and air. Such foil “may be and preferably is” interposed between the core and cover sheets. *See* Dimakis col. 5, lines 54-56 and Figs. 1 and 2. The metallic foil can be adhered to either or both sides of the core. *See* Dimakis col. 5, lines 60-61. In contrast, the presently claimed composite material comprises at least a first and a second layer, wherein the second layer is a metallic component and wherein the second layer is adhered to the first layer or coated substrate. The first layer of the present invention comprises a surfactant component, surfactant-generated microcells, a filler component and a binder component. The combination of Horner Jr. et al. and Dimakis would, at best, suggest to a skilled artisan to make an insulation panel comprising a traditional thermoplastic foam core to which metallic foil is adhered, such metallic-surfaced core further having a cover sheet or facer member. There is no teaching in Dimakis or Horner Jr. et al. to adhere a metallic component to the facer member of Horner Jr. et al. Rather, their combined teaching would suggest to the skilled artisan that a metallic component should be adhered to a traditional core of an insulating board.

Even if Dimakis does provide the necessary teaching to obtain a coated substrate having a metallic component adhered to it, Horner Jr. et al. teach away from the present invention because Horner Jr. et al. teach that aluminum facers are not desired because they cause disruption, delamination and warping and because they are costly. *See* Horner Jr. et al. col.2, lines 20-24. A prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention. MPEP § 2141.02 (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied,

469 U.S. 851 (1984))(emphasis in original). The skilled artisan looking to Horner Jr. et al. would not be motivated to combine its teaching with the foil taught in Dimakis because Horner Jr. et al. teach that a foil facer is not desirable. Accordingly, the skilled artisan would not be motivated to combine any of the cited references to obtain the claimed invention. Moreover, Ahluwalia does not remedy the deficiencies found in Horner Jr. et al. and Dimakis.

As noted above, in order for the Examiner to make out a *prima facie* case of obviousness, there must be some suggestion or motivation to modify the reference or to combine reference teachings, which, in this case, do not exist.

Therefore, Applicants respectfully request withdrawal of the rejection of all of the claims under 35 U.S.C. §103(a) as obvious over Horner Jr. et al. in view of Dimakis.

Conclusion

In view of the foregoing amendments and remarks, Applicants submit that the present invention is now in condition for allowance. Accordingly, favorable reconsideration of the application is earnestly solicited. Please send any further correspondence relating to this application to the undersigned attorney at the address below.

Applicants believe no fee is due in connection with this communication. However, should any fee be due in connection with this communication, the Commissioner is authorized to charge any such fee to Deposit Account No. 06-1205.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "John D. Murnane", is written over a horizontal line.

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